Soybeans and Products

World trade in both total oilseeds and soybeans is projected to increase faster in the baseline than during the 1980s, but much more slowly than in the early 1990s. The Asia crisis will limit trade growth for oilmeals (including soybean meal) over the short term but trade is projected to strengthen as those economies recover. During 2000-2008, global exports of soybeans and meal are projected to rise at annual rates of 1.6 and 1.9 percent, each reaching 46.2 million tons by 2008. Combined exports of soybeans and meal, on a soybean-equivalent basis, are projected at 95.3 million tons by 2003 and 104.7 million tons by 2008.

World vegetable oil trade is projected to grow about 3 percent annually in the baseline, less than the rates achieved in the 1980s and the early 1990s. Soybean oil trade is projected to slow even more than total vegetable oil trade, primarily due to lower relative prices for competing oils, particularly palm oil. With the outlook for continued faster growth in trade in oil relative to meal, incentives to produce high-oil content oilseeds and palm oil are expected to strengthen.

Soybeans and Meal

U.S. exports of soybeans and soybean meal are projected at 29.0 million and 8.6 million tons, respectively, in 2008. The U.S. soybean market share is projected to cycle higher to 65 percent by 2001 as domestic supplies grow relative to foreign supplies. But once weak prices eventually cut domestic soybean returns and production, the U.S. share drops back to 61 percent in 2003, with a gradual upturn through 2008. Similarly, the U.S. market share of soybean meal trade also edges up to 22 percent by 2000 but contracts to 19 percent again by 2008. These projected U.S. shares contrast with significantly higher shares for soybeans (73 percent) and soybean meal (24 percent) achieved in the 1980s, when U.S. production was a higher proportion of the world total. Increasing U.S. livestock numbers, especially poultry, raise domestic demand for soybeans and meal, eventually constraining U.S. exportable supplies. Rising meat exports also keep more feed supplies within U.S. borders than in the past.

Foreign soybean production is projected to climb to 97.9 million tons in 2008. Foreign supply growth is expected to be sharply slower than during the 1970s and 1980s. Currently, only Brazil has the capacity to add large amounts of land to soybean production. Foreign soybean yields are forecast to rise at a modest 1.3 percent annually. In the near term, low prices and tight credit will constrain area expansion and application of inputs in these countries. A stronger price situation by 2001 is expected to raise returns and production by foreign producers.

Growth in world soybean meal consumption is projected to be smaller than in the 1980s and early 1990s. Demand growth is expected to remain robust in several regions, including China and Mexico, and Southeast Asia is projected to recover in the next 2 years. However, EU imports of soybeans and soybean meal are expected to slip as the cost of feeding grains declines. Eventually, improved economic growth in developing nations is projected to rebound and support global consumption growth at about 2.2 percent annually.

Soybean Oil

Foreign soybean oil production is projected to rise 2.6 percent annually and reach 18.8 million tons by 2008. Growth in soybean processing in Mexico, Brazil, Argentina, India, and China accounts for most of the projected gains in foreign soybean oil output. World use of soybean oil is projected to expand at a rate of 2.2 percent annually in the baseline, about the same as in the 1980s, but well below the strong 5.3-percent rate of growth achieved during 1992-97. Projected consumption gains are concentrated in the developing nations of Asia and Latin America, with less growth anticipated in Western Europe, the former Soviet Union, Japan, and the United States.

Slower growth in soybean oil trade is projected in the baseline, compared with the strong 9-percent annual growth achieved in the early 1990s, when trade responded to U.S. and EU subsidies and sharp import gains in developing countries. Future growth in soybean oil trade will be curbed by reduced U.S. export subsidies and higher relative prices that shift demand toward competing oils. In the near term, global palm oil output and trade will still be recovering from the 1997-98 drought in Southeast Asia. The long term outlook, however, is that palm oil producers will reemerge as strong challengers to exporters of soybean oil.

The U.S. share of global trade soybean oil is projected to rise to 25 percent through 2004, with exports peaking at 1.9 million tons. Slower growth in domestic soybean oil production, greater South American competition, and global output gains for other vegetable oils will pare the U.S. market share back to 21-22 percent. Projected U.S. soybean oil exports would slip back to 1.8 million tons by 2008.

Highlights for Major Soybean and Meal Importers

Developing countries account for virtually all import growth for soybeans and soybean meal over the 1998-2008 projection horizon. China, Indonesia, the Philippines, and Mexico account for much of the gains, with China alone accounting for 36 percent of all expected growth over the period. Rising per capita incomes and increased meat demand from the livestock sector drive import demand in these regions. For the world's largest market, EU imports of soybean and soybean meal are forecast to decline steadily over the period, with the EU's share of world trade dropping from 42 to 34 percent.

European Union. EU soybean meal consumption will edge lower as increasing internal grain supplies reduce grain prices relative to soybean meal. EU imports of soybean and soybean meal, on a soybean equivalent basis, are projected to decline 1.5 million tons through 2008. Following a brief upturn in 1999, soybean imports are forecast to fall to 15.3 million tons by 2008, with soybean meal imports sinking to 15.9 million tons.

Mexico. Mexico's soybean imports are expected to grow steadily over the next decade as expanding meat demand spurs domestic meat production and demand for imported feeds. Aiding demand is Mexico's economic and population growth, projected to be the fastest in North America during the next 10 years. Mexican soybean production has declined in recent years and should account for a

minor share of domestic supplies. Future production gains remain limited by scarce water, land, and low levels of technology. Under NAFTA, Mexico's seasonal soybean tariff is scheduled to decline from 5 percent in 1998 to zero by 2003. Mexico's annual soybean imports are expected to grow briskly through 2000 before leveling off at a 3.1-percent annual growth rate, and reaching 4.7 million metric tons in 2008.

China. China's soybean imports have surged since 1996, and robust growth is expected to continue over the 1998-2008 period. Rapidly increasing meat demand (raising protein meal consumption), large vegetable oils deficits, and surplus crushing capacity will raise soybean import demand. Relatively flat demand for tofu will, however, partially offset a rising soybean crush. Land constraints and a greater priority for producing wheat, rice, and corn will limit expansion of China's domestic soybean production. As policies favor greater utilization of domestic crushing capacity, Chinese soybean imports are likely to gain relative to imports of meal. Although weaker economic growth in the near term may somewhat slow China's poultry production, a moderate pace should reemerge to satisfy strong domestic consumption and exports. Soybean imports would rise by two-thirds from 1998 to 2008 to 6.0 million metric tons. Soybean meal imports are expected to increase to 7.4 million tons by 2008.

East Asia. In *Japan*, meat consumption is expected to grow about 10 percent over the next decade, compared with the 18-percent growth rate observed during 1985-1995. Recent currency weakness has reduced meat imports and aided domestic livestock production. Over the long term, however, falling meat import barriers, high local production costs, and environmental concerns are likely to continue to favor meat imports over domestic production, thus reducing feed demand. Stable per capita consumption of soy foods will, however, offset stagnant crushing demand, so that Japanese soybean imports are expected to slowly rise to 4.9 million tons.

Soybean imports by *South Korea* are projected to fall to near 1.4 million tons in 1998 and 1999. Subsequently, soybean imports are expected to grow about 2 percent annually, reaching 1.6 million tons by 2008. Soybean meal imports into South Korea are expected to grow gradually in the next few years, recovering from the financial crisis. Beyond 2003, soybean meal imports are projected to rise 4 to 5 percent per year, reaching 1.2 million metric tons in 2007.

Taiwan's soybean imports have fallen in the last 2 years as the foot-and-mouth disease (FMD) epidemic forced a 30-percent reduction in hog production, although this was partially offset by greater poultry output. In spite of the lapse in domestic meal demand, Taiwan's crushers will attempt to keep their facilities engaged and export any surplus meal production to Asian neighbors. Pork exports will resume by 2003, so soybean imports are expected to recover to the pre-FMD level by then, subsequently increasing to 3.0 million tons by 2008.

Southeast Asia. Prior to the Asian financial crisis, *Malaysia*, *Indonesia*, the *Philippines*, and *Thailand* were among the world's fastest growing import markets for soybeans and soybean meal. After sharp declines in 1997 and 1998, economic reforms in these countries have set the stage for expected recovery during 1999-2008. With recovery in economic growth, solid growth in soybean

and soybean meal imports should return.

Highlights for Major Foreign Soybean and Meal Exporters

Ample U.S. soybean supplies would substantially accelerate exports and domestic crushing in 1999/00 and 2000/01. Subsequent year to year increases are expected to moderate. U.S. soybean exports would stabilize between 25-26 million tons until 2005/06 when supplies have tightened enough to again induce increases in acreage and exportable supplies. The average U.S. price for soybean meal may sink to $125 per short ton in 1999/00, the lowest since 1971/72. Consequently, in the near term U.S. soybean meal exports should gain at the expense of foreign competition, climbing to about 8.8 million metric tons by 2001/02. But continued growth in domestic soybean meal consumption (spurred by an improving hog sector), slowing supplies, and a rebound in foreign production would curtail U.S. export potential in 2002/03 and beyond.

Total South American soybean exports will increase about 1 percent a year. South America's combined market share for soybean exports is projected to slip from 38 percent in 1998 to 35 percent by 2008, while the soybean meal export share edges from 61 to 62 percent.

The rate of productivity gains from greater use of inputs and advanced genetics will determine how quickly the gap narrows between South American and U.S. producers. In addition, the response of farmers and traders in Brazil and Argentina to economic reforms and the privatization of ports, highways, railroads, and grain-handling facilities will be important to the trade outlook for soybeans and meal. In both countries, improved infrastructure is significantly lowering producer costs and enhancing competitiveness.

Brazil. Until 2002, large U.S. supplies will weaken global soybean prices, limiting growth in *Brazilian* planted area and production. Brazil's elimination of differential export taxes will continue to favor exports of soybeans over soybean meal. The currency devaluation will also benefit soybean exports at the expense of domestic crushing. Eventually, internal feed consumption will rebound, slowing exports of both soybeans and meal. Soybean exports increase about 1.1 percent annually to 10.0 million tons. Soybean meal exports will rise slowly until about 2003, then accelerate to 13.8 million tons by 2008 as production expands.

Prospects for expanding Brazilian production rely heavily on new production in the outskirts of the Center-West region. Transport costs have hindered area expansion. Although some expansion of soybean area in the Center-West region is anticipated in the baseline, area and production could grow more dramatically if transport costs are reduced further or soybean prices rise sufficiently.

Argentina. In the next several years, Argentina's relatively fixed land base, increasing competition from grains, sunflowerseed, and livestock will likely constrain growth in soybean area. Lower production is projected to reduce Argentine soybean exports in 1999 and 2000, but then resume subsequent annual growth of about 4.7 percent. Argentina's small consumption base and abundant crush capacity assure long-term growth in exports of soybean meal.

Other South America. Soybean production and exports in both *Paraguay* and *Bolivia* are projected to expand steadily through 2008 due to increases in irrigated area and improved infrastructure.

India. India is expected to continue to expand its soybean and soybean meal production, but growth is likely to be slowed by the combination of area constraints and lower levels of protection for oilseed producers. With limited domestic meat and feed demand, Indian soybean meal exports are forecast to grow to 4.2 million tons by 2008.

Highlights for Major Soyoil Importers

Income growth in China, India, and Pakistan, which together account for more than a third of total world population, is a significant determinant of the growth in global vegetable oil trade during 1998-2008. Despite high internal prices and import controls in these countries, consumption of vegetable oils is expected to expand considerably. Per capita consumption of oils in these countries is still well below that of developed nations.

However, over the long run, soybean oil is expected to have a smaller role in global vegetable oil trade because of higher market prices compared with other oils, particularly palm oil. After recovery from the drought-related shortfalls in 1997 and 1998, palm oil exports by Malaysia and Indonesia are expected to resume their gains, increasing palm oil's already leading share of oil consumption and trade. By 2008, palm oil is anticipated to account for most of the increase in imports by China, India, and Pakistan because of favorable relative prices and transport costs.

Since the projected growth in vegetable oil demand during 1998-2008 is highly dependent on expected economic growth in developing countries, the projections are sensitive to the macroeconomic outlook for these countries. The import projections are also sensitive to assumptions on changes in market access for vegetable oils. India is assumed to maintain its tariffication of vegetable oil imports, while no changes in current access policies are assumed in China and Pakistan.

China. Per capita edible oil consumption in China grew extremely rapidly between 1980 and 1996, rising from 1.9 to 7.6 kilograms. High income growth, together with a high income elasticity of demand for vegetable oils, is expected to continue to drive strong gains in soybean oil imports during the projection period. The rise in soybean oil imports is projected despite the anticipated rapid growth of domestic crushing and soybean imports. However, production and imports of rapeseed and palm oil imports are increasingly important sources for vegetable oil. China's soybean oil imports are forecast to grow to 2.5 million tons by 2008.

Owing to the massive size of the market, the future growth of China's vegetable oil consumption constitutes a major uncertainty in world trade projections. As a major oilseed producer, small changes in China's domestic plantings or yields can also have a significant effect on vegetable oil imports. Additionally, since vegetable oil imports remain under state control, future levels of imports may not necessarily reflect market conditions.

India. Gains in India's per capita income, along with liberalized edible oil trade, will boost oil demand and imports over the next 10 years. However, soybean oil will continue to encounter stiff price competition from palm oil over the long term, as well as limited consumer acceptance of pure soybean oil for cooking use. Palm oil is expected to account for the bulk of Indian import gains because of its better consumer acceptance and low delivered price relative to other oils. Nonetheless, increasing deficits of vegetable oils are expected to boost soybean oil imports above 0.2 million tons by 2008.

North Africa and the Middle East. Import demand for soybean oil in North Africa and the Middle East is projected to increase nearly 3 percent annually during 1998-2008. Price competitiveness will continue to play a major role in determining relative levels of vegetable oil imports. A rebound in palm oil imports should limit the potential for growth in soybean oil imports in these countries. Expanding soybean crush capacity in *Egypt* will raise domestic soybean oil production and reduce import requirements.

Latin America. In Latin America, total soybean oil imports are expected to rise slowly over the 1998-2008 period, averaging about 1.8 percent growth per year. Mexico is expected to slowly pare imports of meal as its crush of imported soybeans expands to meet demand. Larger soybean oil imports by non-producing countries of South America will contribute most to the overall slow growth in the region. Soybean oil imports there will likely continue to benefit from proximity to major producers, food aid, and a preference for soybean oil.

Other countries. Growth in soybean oil imports for markets such as *Sub-Saharan Africa, Central and Eastern Europe,* and the *FSU* will be stable but not particularly robust. In the FSU and Eastern Europe, the great need for foreign exchange commodities also may spur increased area of high-oil content crops, such as sunflowerseed and rapeseed, and thereby limit soybean oil imports.

Highlights for Major Foreign Soyoil Exporters

Exports of soybean oil are concentrated among the United States, EU, Argentina and Brazil, which together accounted for 90 percent of world soybean oil trade during 1996-1997. U.S. exports of soybean oil will respond to increasing supplies and a falling price, rising to a peak near 1.9 million tons in 2004. However, U.S. trade would slip in later years as world palm oil production regains strength, moderating crush and domestic needs begin to tighten U.S. soybean oil supplies available for export, and South American competition firms.

Argentina. Argentina's exports of soybean oil over the 1998-2008 period are expected to continue to grow, and Argentina will remain the world's largest soybean oil exporter. While Argentina's soybean oil export growth will remain robust, the tremendous gains of recent years will likely be limited by slower growth in planted area. In the next several years, Argentina should also increase plantings of high-oil content sunflowerseed on available oilseed area.

Brazil. In Brazil, soybean oil exports are expected to decline below 1.3 million metric tons in the first few years, before beginning to rise steadily in 2001 and reaching 2.1 million tons in 2008.

European Union. CAP reform and the U.S.-EU Oilseed Agreement are expected to restrain EU oilseed production and exports of soybean oil outside the EU. The expansion in U.S. and South American crush capacity will continue to pressure EU crush margins, thereby tightening domestic soybean oil supplies. EU soybean oil exports are forecast to gradually decline to 1.25 million tons by 2008.